EXECUTIVE SUMMARY

This Corrective Action Plan (CAP)for Tank 510.8 has been developed in accordance with 40 CFR 280.66 and 280.67, as referenced by the Utah Administrative Code. The Utah Department of Environmental Quality, Division of Environmental Response and Remediation has designated Tank 510.8 as UDEQ leaking UST Site AFLB. Site AFLB is the location of one former 2,000-gallon underground storage tank (UST) at Hill Air Force Base (HAFB), Utah. This CAP has been prepared by EA Engineering, Science, and Technology for the Environmental Management Restoration Directorate (EMR), HAFB. The plan follows the format presented by the Utah Department of Environmental Quality (UDEQ), Division of Environmental Response and Remediation (DERR).

Information for this report is based on the review of the Abatement and Initial Site Characterization Report, the Subsurface Investigation Report, information from additional soil borings drilled July 1992, and Hill Air Force Base (HAFB) records for Tank 510.8.

One UST that formerly contained Stoddard solvent was removed from Site AFLB in 1989. The tank had not been used in recent years, but appeared to be sound when it was removed. The tank still contained some liquid just prior to removal. Closure samples were collected at 2 ft below the native soil/backfill interface, at each end of the excavation at the time of removal. Soil samples collected were submitted for analysis for total petroleum hydrocarbons (TPH), EPA method 8015 (modified) and for volatile organics. The results of the analysis indicated TPH concentrations of 13,500 and 22,100 mg/kg were present. After the samples were collected, the tank pit was backfilled with clean fill.

Total Petroleum Hydrocarbon (TPH) concentrations and benzene, toluene, ethylbenze, and xylene (BTEX) were analyzed at various depths for two boring locations in January 1991. Three additional borings were drilled in July 1992 with TPH concentrations analyzed at various depths. Of the samples analyzed, a total of eight samples had TPH concentration above analytical detection limits. All other samples were below analytical detection limits.

TPH concentration above recommended cleanup levels was detected at soil boring locations MW-1, SVE-1, and SB-3. At soil boring locations SB-1 and SB-2, TPH concentration was below analytical detection limits. The affected area is approximately 975 ft^2. The thickness of contamination varies from 9.5 ft within the tank excavation to more than 18 ft at SB-3. Assuming an average thickness of 18 ft, results in an estimate of 17,550 ft^3 ($\approx$650 yd^3) of impacted soil.

Tank 510.8 had capacity to store 2,000 gallons. Information concerning the quantity and age of the released product is not available. TPH concentration ranges from 1,160 to 11,400 kg/mg. The average concentration is 7,600 kg/mg excluding the 1,160 value at the 47 ft depth at SVE-1. Therefore HC_{mass} within the identified area approximates 6,230 mg/kg. Based upon the specific gravity for Stoddard of 0.78, this mass represents approximately 2,100 gallons of product.

The Utah DERR establishes soil cleanup levels based on R450-101, the "Corrective Action Cleanup Standards Policy." The cleanup levels are determined on a site

specific basis. A ranking system based on various criteria is used by the DERR to assign sites to established cleanup groups. Site AFLB was ranked by EA as a Level I site using the following DERR criteria:

EVALUATION RANKING CRITERIA AND POINT SCORE

Distance to Groundwater, 25-50 ft	12	
Native Soil Type, Moderate Permeability	10	
Annual Precipitation, 17 in.	5	
Nearest Municipal Well, 1,320-5,280 ft	8	
Distance to Other Wells, >1,320 ft	0	
Distance to Surface Water, >1,000 ft	0	
Affected Populations, >3,000	20	
Presence of Utility Conduits, present	15	
Total	70	Level I

Final score (>65 = Level I, 40 - 65 = Level II, <40 = Level III)

In recent decades, motor gasoline has been deliberately formulated to have a high content of benzene, toluene, and xylenes by using catalytic reforming, in order to improve octane ratings. Diesel fuel and Stoddard solvent do not contain products of reforming, and have lower benzene content than does motor gasoline. Therefore, a cleanup level for Stoddard solvent closer to that for diesel than to that for gasoline should apply.

A maximum TPH value of 11,400 mg/kg significantly exceeds the general range of concentration levels for Level I sites (Table 2-3). All other TPH values above analytical detection limits also exceed the RCL for TPH under the Level I category. However, concentrations for benzene, toluene, ethylbenzene, and xylene (BTEX) are all well below the recommended cleanup levels of a Level I site.

The CAP options discussed in the CAP cover a wide range of technologies and costs. The objective of the CAP is to reduce risk to human health and the environment, select the technology that is best suited to the overall site conditions, be cost effective, and attempt to achieve cleanup goals established by the state.

Based on the information gathered during the Abatement and Initial Site Characterization, the Subsurface Investigation Report and subsequent soil borings, the "Soil/Bio Venting" alternative is the recommended option for this site. This selection is based on the following conclusions:

- The extent and nature of the existing TPH contamination is indicative of a spill approximating 2,100 gallons.
- Downward migration of contamination to the water table can occur with the other two options.
- The depth to groundwater is approximately 86 ft, whereas the leading edge of contamination has extended to a depth of at least 52 ft.
- RCLs established by DERR can be achieved.

In comparison with the other remedial alternatives, Soil/Bio Venting is the most feasible and cost effective solution for Site AFLB.